# Proposed Tree Management Policies and Code Changes

## Introduction

Trees have long been a significant part of the character and landscape of Western North Carolina and Hendersonville is no exception. Long before we may have fully realized that trees have value far beyond their timber revenue, people came here because they wanted to visit and live in the foothills and mountains with its temperate climate, abundant tree and natural resources, and beautiful scenery. And people are still coming here to enjoy what we have to offer.

We know that abundant natural resources and green spaces attract people, commerce and tourism. But do we fully realize and appreciate what trees and other natural vegetation do for us and our environment.

Trees provide a great number of quantifiable benefits including enhancing property values and aesthetics, inexpensively treating and managing stormwater, improving air quality, contributing to the reduction of greenhouse gas emissions, reducing erosion, especially along our waterways, providing abundant wildlife habitat, and providing energy savings to residents. Conservation of our urban forest and green space is truly a low-cost multiple benefit community investment. But the Tree Board believes that trees do more. While public service infrastructure systems and bricks and mortar help support the city's social and economic life, the urban forest is its soul and gives our city character. The urban trees, shrubs, and many other types of plants provide citizens with a sense of place and an emotional connection to the physical surroundings which they come in contact with everyday and call home. With all of the benefits that trees provide, the Tree Board believes that a healthy urban forest is as crucial a component of life, health, and well-being in Hendersonville as any other part of our infrastructure, items, by the way, that cost millions of dollars more.

Many Hendersonville residents have expressed their agreement with and demand for protecting and the improvement of our urban forest. And they have been supporting this philosophy, not only individually, but collectively through their city council and the creation of the city's governing documents. Formal recognition of the importance of proper tree management began with the 1971 version of the City Code of Ordinances and the formation of the Tree Board, some 51 years ago. Ever since, trees have played an important and formal part in the city life of Hendersonville residents.

Let's briefly review the city's governing documents, beginning with the City Code of Ordinances.

## Existing Code and Comprehensive PlanTree Management Statements of Purpose and Benefits

**City Code of Ordinances**

Article IV - Trees and Shrubs - Division 1

Sec. 46-116 - Purpose of article

The purpose and intent of this article is to preserve and protect trees existing within the city and its extraterritorial jurisdiction by:

1. Saving trees from indiscriminate destruction or unnecessary removal;
2. Diversifying the tree species in the area;
3. Establishing standards limiting and regulating the removal of trees
4. Building an awareness of the need for and value of preserving trees;
5. Establishing an education program providing information and guidelines for tree preservation and maintenance;
6. Establishing standards for tree maintenance and protection;
7. Enhance, maintain and replenish trees in the Hendersonville area to improve the community's beauty and appearance.

Sec. 46-117 - Benefits of Trees

The city finds it important to amend this article to better preserve and protect trees since numerous benefits are derived from this practice, including the following:

1. Assists in the stabilization and fertilization of soil and in the prevention of soil erosion
2. Contributes to the process of groundwater recharge and storm water run off retardation and protecting against flood hazards and the risk of landslides;
3. Contribute to the process of air purification and oxygen some air pollutants;
4. Intercepts airborne particulate matter, and reduces some air pollutants;
5. Provides a haven for birds, reptiles and mammals which in turn help control the insect population;
6. Aids in glare, heat, noise abatement, along with maintaining the climate balance and decreasing wind velocity;
7. Provides nuts and fruits for wildlife;
8. Provides important psychological, sociological, and aesthetic counterpoints to the urban setting;
9. Provides aesthetic qualities which enhance livability;
10. Promotes energy conservation by maximizing the shading and collling effects of trees;
11. Buffers uncomplimentary and often incompatible land uses by providing a transitional area.

Article IV - Tree Board

While the Tree Board responsibilities started out being confined to public land trees in 1971, its work has expanded now to include making recommendations to the City Council on landscape plans for approval of projects in Conditional Zoning Districts.

**Subdivision Ordinance**

Section 1.04 Purpose and Intent - Goals and Objectives

H.) Protect open space, wildlife habitat, natural resources, cultural resources, and historic and rural character, where appropriate

**Zoning Ordinance**

Article XV - Buffering, Screening & Landscaping

15-1: Purpose and Intent. The City of Hendersonville has an abundant and diverse tree and vegetative cover that contributes to the aesthetic value of the City and provides numerous ecological and economic benefits. The landscaping, buffering and screening standards set forth below require landscaping in certain circumstance and locations in order to:

15-1a: Encourage the preservation of existing trees and vegetation and replenish removed vegetation

15-4 - Existing Vegetation:

15-4a: Preservation of Existing Vegetation - Preserving trees can improve the aesthetic quality of the site and improve property values, provide environmental benefits, mitigate the impacts of development on the community, and help minimize opposition to a proposed development. It is recommended that groups of trees be preserved, as will as individual trees.

**Comprehensive Plan**

Chapter 3 - Natural and EnvironmentaL Resources

Vision Statement - Hendersonville will be known for its success in protecting valuable open spaces and reducing its ecological footprint, maintaining the resources that first attracted residents to this community and supported its prosperity. Preservation of environmentally sensitive areas will protect citizens from natural hazards, improve water and habitat quality and contribute to an interconnected network of recreational open space.

Goal NR-1, Strategy NR-1.2: Protect Land Adjacent to Streams in order to protect water quality, reduce erosion, and protect wildlife habitat

Goal NR-2, Strategy NR-2.3: Promote Preservation of Woodlands. Mature trees and wooded areas are significant community-defining natural features and contribute to Hendersonville's identity

**City Council Core Values and Beliefs**

The City of Hendersonville believes environmental sustainability is critical to preserving the community for future generations

The City will prioritize the protection of existing tree canopy and the development of greenspaces and parks

By any measure, it is clear to the Tree Board and to many residents that trees are to be an integral part of our community. But do we have the necessary policies and development standards in place to ensure that our tree centric and natural resource city character is maintained? The Tree Board believes more work needs to be done.

Our landscape is changing. As in many parts of North Carolina, we are experiencing rapid population growth with increasing development pressures on our communities and their urban forests. Developed landscapes, the roads, streets, houses, apartments, condos and commercial buildings, are rapidly becoming the face of our community. **Our tree centric community character is disappearing**. While we still can, the Tree Board believes we need to implement additional steps to properly manage our tree and natural resource integrated landscape. In short, the Tree Board believes that we need to adopt, now, a **no net loss** tree canopy goal as well as make other improvements in protecting our natural environment.

Let's take a closer look at our various zoning districts and how the city's tree canopy is being affected and how we believe it can be improved.

Existing Residential Areas

Roughly fifty eight percent (58%) of the land area of Hendersonville is zoned residential, R6, R10, R15, R20 and R40 zoning districts and the related Conditional Rezoning Districts.This area largely represents the older existing single family, two-family and multifamily areas. With the exception of new subdivision development, redevelopment of multiple lots and outright rezoning efforts, the Tree Board believes the city council and current residents will not want to impose, through additional regulations, expanded tree preservation or tree planting on the existing residents of these areas. Fortunately, these areas have traditionally been developed and maintained with large canopy trees in mind. But these areas are changing and, in many cases, not changing for the better when it comes to protecting and properly managing trees, needlessly removing mature trees, planting exotic trees and other plants that have negative effects on the ecology of the area, and just not planting trees when residential zoning districts are redeveloped.

1.) Many of the larger trees in residential areas are maturing or are mature and residents are having them removed at an increasing rate. I am not sure why this is happening except to say that homeowners may believe that large trees are a liability or hazard. Probably the only contact homeowners have with anyone about trees is the tree removal companies they hire to do tree work on their property. Most large and mature trees do not need to be removed and Certified Arborists can assist with making the right decision for the health of a tree, proper tree trimming and any hazard. We need to make professional tree management specialists more available to our residents.

2.) And speaking of proper tree management, the Tree Board believes that one tree trimming practice that we should attempt to completely eliminate is tree topping. Tree topping disfigures and damages the tree, and it may kill it. Once a tree is topped it is highly susceptible to disease, decay and insects. In addition, it reduces property values by 10 or 20%. The water sprouts that grow at the top of the tree have weak, shallow anchors and are likely to break off in a storm. Simply put, tree topping creates such damage to a tree, that it cannot provide all of the benefits and functions we know trees can provide.The city long ago put in place a prohibition against topping public property trees and we must work toward eliminating this destructive practice on private land as well.

3.) Another improvement in improving tree canopy in residential areas could come from greater city funding for the Tree Board's Neighbor Woods program. If you are not familiar with the program, Neighbor Woods is a collaborative effort between the city and the Community Foundation of Henderson County designed to replenish and sustain the city's tree canopy and urban forest. The program has purchased and residents have planted almost 400 trees since 2010. As beneficial as this program has been, it does not begin to replace trees lost due to development and tree removal in residential areas. Currently the budget for the program is approx. $4000 per year. Increased funding would allow the program to reach more residents and, of course, plant more trees...

4.) The Tree Board believes that any program designed for the protection of existing and future canopy trees, to improve wildlife habitat, and to help reduce man's adverse impact on biological diversity must include the control of invasive plants. Invasive plants that outcompete native plants or otherwise adversely affect the ecology of our natural environment must be aggressively dealt with. The Tree Board and the Environmental Sustainability Board have developed a list of undesirable trees, shrubs, and other plants that can be found in the Recommended Landscape Species List for Street Trees and Land Development Projects. The list has been incorporated into our zoning regulations that apply to planting requirements for new developments, preventing undesirable plants from being utilized in any new development project. That is a good start, but now we need to work with private landowners to reduce, eliminate and replace invasive plants.

5.) This last proposal will have the greatest impact on improving tree canopy in the redevelopment of existing residential zoned areas (R6,R10,R15,R20,R40 and related Conditional Rezoning Districts) .The Tree Board recommends that street trees be required to be planted for all new developments including all proposed subdivisions and all new housing construction. The development standards for planting street trees already exist in the zoning code and we propose that only medium and large maturing trees may be utilized as defined in the Recommended Landscape Species List for Street Trees and Land Development Projects published by the city. Existing medium and large maturing trees must be maintained as street and frontage trees and may be utilized to meet this planting requirement if meeting location and construction protection requirements.

To tackle tree management problems and improve our tree canopy in existing residential areas, the Tree Board recommends the development of a program of enhanced urban forest information and education, as well as providing incentives for landowners to properly manage their trees. We envision an Hendersonville Urban Forest Protection and Planting program that would do the following:

1. Increase involvement in the Neighbor Woods Program through enhanced promotion with such methods as engaging residents visiting festivals, advertising Neighbor Woods with flyers included in city utility bills, and highlighting the program through the web site, social media and printed communication with residents.
2. Increase city funding for Neighbor Woods from the current $4000 per year to $8000 per year to help compensate for the increasing tree loss being experienced in the city.
3. Create a Tree Management Cost-Share Program to provide residents with expert information and education for solving problems and proper management. Such things as tree trimming, proper care, tree selection and planting, invasive plant control, and hazard tree assessment would be eligible for cost-share funds. We envision a 50/50 split between city funding and resident funding. Cost-share funding would only be available to residents under the guidance of Certified Arborists.

In short, we need to fulfill the promise laid out in our guiding documents and put additional effort and funding to enhance and support our valuable tree canopy in residential areas.

As we have noted, the residential zoning districts utilize roughly 58% of the land area of Hendersonville. That leaves 42% of our city where rapid development is taking place and having the most negative impact on our tree canopy. In the last 8 years, we have lost 88 acres of our tree canopy due to development. And this figure does not include an accounting of trees lost, or will be lost, in new developments approved since early in 2020. We expect that when newer developments are added in, our canopy tree loss will be well above 150 acres. We have also seen an increased rate of proposed developments being presented for approval and do not see that decreasing anytime soon. And keep in mind this loss has taken place under existing tree preservation and tree planting required in existing code regulations. At this rate, we will quickly deplete existing tree canopy coverage in almost half of the area that makes up the city of Hendersonville.

As we have proposed for residential zoning districts, the Tree Board has prepared a number of changes that will begin to better protect the remaining canopy trees, reinvigorate tree planting and make improvements to the city’s natural environment for the rest of Hendersonville’s zoning districts.

Let's Talk About Tree Protection

Probably the most important change we could make is to simply protect additional existing canopy worthy trees. Currently, for some types of new development, the city requires a tree

survey of all 12 inch and larger canopy trees on site. In the last 8 years, we have seen developers eliminating the majority of these large trees through mass grading and only being required to plant a few small caliper trees that will take many years to become mature. We believe that the loss of existing canopy trees has simply been too great for a city that says we value trees and believe trees are an asset and an integral part of the character of the community.

We propose that all development sites be required to conduct a tree inventory and that of the 12” and larger caliper trees found on the site, 50% of them must be preserved. We also propose that any trees of 25” or larger caliper be given special consideration for protection by requiring developers to avoid these trees, if at all possible, or provide monetary compensation for removal. We believe developers should design developments with existing trees in mind rather than mass grading the entire site and maybe saving a few trees around the edges. We propose that this tree preservation requirement apply to Planned Residential Developments [PRD], all new subdivision development in any zoning district, commercial districts C2-4, and all developments planned for vacant land.

And This Brings Us To Planting Additional Trees.

For the types of developments as noted above, we believe that planting additional trees, dispersed as widely as possible across the development site, to serve as future canopy trees, and to compensate for removing 50% of existing canopy trees should become a regular practice for planning our future developments. After preserving 50% of existing large canopy trees, we propose that developers be required to plant enough medium and large canopy trees to bring the total of preserved and planted trees to be 80% of the total 12” or larger trees identified in the tree survey.

In addition, the Tree Board recommends that street and frontage trees, as well as open space trees, be required to be planted in zoning districts that do not already have street tree and open space tree requirements.The street tree and open space planting requirements are already laid out for some zoning districts and we are recommending them for redevelopment in all districts.

Another area where the Tree Board believes we could help develop additional tree resources, beautify our urban neighborhoods and make our city more livable is by expanding buffer yards by using them in more areas between different types of housing. This enhancement will allow for the development of better wildlife habitat, additional ecologically beneficial landscaped areas, and better screening between dissimilar land uses. We propose to modify the buffer yard chart found in (Section 15-6 of the zoning code) to include buffers between single and two-family areas from all other higher density housing developments.We recommend using Type B buffers for this requirement.

In our proposal, tree credits, as already identified in code, will continue to be offered for preserving additional 12” or larger trees beyond the required 50% level and for preserving large hardwood canopy trees of 25” or larger in caliper. Tree credits will be able to be applied to open

space and buffer yards tree planting requirements. In addition, current zoning regulations require developers to apply tree protection construction standards to trees that will be preserved when tree credits are applied. That is a good thing, however, all trees preserved on a construction site should be protected from construction activities, not just when the developer applies for tree credits.

Another way to preserve what remains of the city's existing tree canopy is to preserve steep slopes, preventing development of these areas. These areas are typically still wooded, often with large canopy trees and certainly do not make ideal development sites. The city currently allows development on slopes up to 35%. The Tree Board proposes that all slopes steeper than 20% be protected. This change will save additional existing tree canopy, protect steep slopes from excessive erosion and stormwater runoff, especially after they have been cleared and planted to turf grass, and preserve additional wildlife habitat and wildlife corridors.

As you can see, the Tree Board is attempting to move the city to fully implement the existing code guidance, fulfill the vision of our Comprehensive Plan, bring to life the City Council's environmental values and beliefs, and establish a new goal of **No Net Loss** of our city's tree centric character. As proposed, the Tree Board's tree preservation and planting requirements would not be set in stone. The medium and large canopy tree preservation and planting requirements are intended to set minimum standards for quality development and environmental protection and are not intended to be arbitrary, inhibit creative solutions, or prevent needed development. Alternative planting plans can be proposed as outlined in Section 15-3 of the zoning regulations. In addition, the Tree Board proposes to allow a payment-in-lieu of tree preservation and planting for those situations that the City Council believes that the tree standards cannot be met. A sliding scale of payments will be developed based on the size of trees in question. Payments will be deposited in the proposed Hendersonville Urban Forest Protection and Planting Program which would include the existing Neighbor Woods Program.

The Tree Board would like to make four final proposals that apply directly to tree planting, preservation, and increasing the ability of the city to properly manage its tree canopy..

Waterway Management

The first one endeavors to not only improve tree canopy but water quality and wildlife habitat as well. Because of our rolling and sometimes more rugged topography, and numerous valleys, we have a number of blue line designated streams and numerous unprotected stormwater waterways. We believe that all of our waterways, regardless of type, must be properly managed to protect water quality, curb erosion, and provide important wildlife habitat corridors for urban wildlife. While some protection is now afforded to blue-lined streams on new development sites, the Tree Board believes that this protection should be strengthened and tree and wildlife habitat standards be established. In addition, we propose to require some protection for the numerous unprotected stormwater waterways that are found on new development sites. Currently, blue-lined streams are protected with a 30 foot no disturbance zone on each side of the stream and a 20 foot transition zone of no development, but few other standards on how this transition

zone is used or maintained. In addition, these areas are typically overrun with invasive plant species.

We recommend, for blue-lined streams, the no disturbance zone (excluding invasive plant removal) be increased to 40 feet on each side, vegetative standards be set for the 20 foot transition zone and no mass grading allowed within 50 feet of the transition zone. In addition, the Tree Board proposes that the currently unprotected stormwater waterways also be afforded protection by requiring a no disturbance zone (again excluding invasive plant removal) of 15 feet on each side of the waterway. In addition, we propose that the following vegetative and management standards be applied to all waterway corridors found on new development sites:

1. Because many of these corridors are overrun with invasive plants, the Tree Board recommends that developers be required to remove invasive plants and replant these areas with appropriate and diverse vegetation, including trees, shrubs and herbaceous plants listed in the city's approved plant list, taking care not to create additional erosion problems.
2. For the 20 foot transition zone and the 50 foot no mass grading zone along blue-lined streams, appropriate and diverse vegetation, including trees, shrubs and herbaceous plants listed in the city's approved plant list must be planted and maintained. No turf grass should be planted. These changes will improve stormwater infiltration and filtration, helping to mitigate adjacent turf grass maintenance pollution as well as provide more opportunities for the development of tree canopy and wildlife habitat. They could also be used as walking and nature trails for the benefit of residents of these developments.
3. Existing erosion problems must be corrected using current stream restoration techniques using abundant native vegetation with no large scale rip-rap used.

Natural Resource Trained Staff

The Tree Board proposes that the city hire a planning staff person that is dedicated to natural resource management, environmental, and sustainability programs. We believe that such a person could assist the city planning efforts by doing the following:

1. reviewing proposed developments for environmental and ecological impact concerns,
2. assist with updates to the comprehensive plan concerning natural resources and environmental protection,
3. conduct inventories and assessment of tree canopy and wildlife habitat,
4. assist public works with natural resource management on public lands,
5. assist residents with concerns about tree management, invasive plant control and eradication, waterway erosion, and
6. assist the city with sustainability and environmental programs.

Tree Canopy Survey

The Tree Board's next to last proposal is to have the city contract for a professional tree canopy survey to be conducted. We believe it is important to periodically determine how the city's tree preservation and programs are working, especially in light of increased development in the city. In short, are we gaining or losing tree canopy in the city? While we can estimate tree loss due to development through aerial photography imagery and loss of stormwater storage calculations that the city has provided to us, the Tree Board believes we need a professionally conducted canopy survey to compare to the one conducted by the city in 2009. We think it is past due to get an update to guide our efforts for proper tree management going forward. Back in 2009, the city had a tree canopy coverage of 36.6%. That was 13 years ago. We are fairly confident that we have lost tree canopy coverage since then. To compare Hendersonville with other cities that have formal tree management programs, Asheville has 44% coverage, Wilmington has 48%, Durham has 52%, Charlotte has 45%, Winston-Salem has 47%.

Our last proposal is a procedural one, but is an important part of properly reviewing proposed developments. Developers will need to submit plans of sufficient detail to the Planning Department that will provide the Tree Board with adequate information to review how the development will impact the landscape and tree canopy cover. Information needed will include the following: numbers and species of 12" to 25" caliper trees on site, numbers and species of 25" or larger caliper trees on site, numbers and species of trees to be preserved and removed, a fully developed landscape plan showing approximate location and species of proposed trees, shrubs and other plants to be utilized on site, and the proposed vegetative treatment along all buffers, stormwater conveyances, blue-lined streams, and a 20' perimeter around stormwater ponds subject to surface drainage from turf grass management areas..

The Tree Board's proposals are designed to fulfill the city's stated desire to preserve and replant canopy trees whenever possible, and to improve both the traditionally managed city landscape and the more natural areas still remaining while maintaining adequate space for new development. We hope that our proposals will encourage developers to design and build developments that are integrated with the traditional physical character of our city, the environmental values of our current residents as expressed in our governing documents, and the numerous economic, cultural, environmental, and ecological benefits provided by adequate tree canopy and more natural vegetative enhancements.